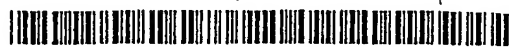


DS

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
7 December 2000 (07.12.2000)

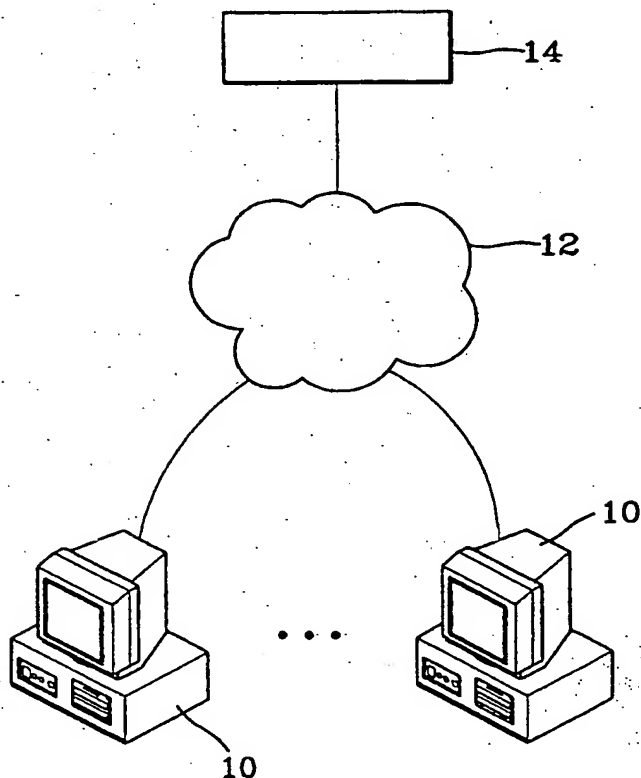
PCT

(10) International Publication Number
WO 00/73916 A1

- (51) International Patent Classification⁷: G06F 15/00
- (21) International Application Number: PCT/KR00/00156
- (22) International Filing Date: 28 February 2000 (28.02.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
1999/19451 28 May 1999 (28.05.1999) KR
- (71) Applicant (for all designated States except US): ADGATOR.COM CO., LTD. [KR/KR]; 2F. Dae-a Venture Bldg., 1594-4 Seocho 3-dong, Seocho-gu, Seoul 137-073 (KR).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): BAE, Eul, Sup [KR/KR]; 102 Daehyun Villa, 931-2 Hogue 2-dong, Dongan-gu, Anyang-city, Kyungki-do 431-082 (KR).
- (74) Agent: LEE, Young, Pil; The Cheonghwa Building, 1571-18 Seocho-dong, Seocho-gu, Seoul 137-073 (KR).
- (81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— With international search report.

[Continued on next page]

(54) Title: ADVERTISING METHOD THROUGH DISPLAY SCREEN OR SOUND ON USER COMPUTER OVER NETWORK AND COMPUTER READABLE MEDIUM THEREFOR



(57) Abstract: A method of advertising through a display screen or sounds on user computers over a network, and a computer readable medium therefor. The advertising method includes: (a) creating a program capable of automatically changing at least one screen file for the boot and shutdown screens, a background screen and a screen saver or a sound file running at the time an operating system of a user computer is booted or shutdown, the screen and sound files preexisting in user computers, with at least one screen or sound files with advertisements (ads) transmitted from the server computer, and storing the created program in a memory of the server system; (b) downloading the program through the network to user computers; (c) creating at least one ad file with images and/or sounds in response to a request by advertisers; (d) creating screen files with the ad file for the boot screen, shutdown screen, background screen or screen saver, or sound files with the ad file, the sound files running at the time the operating system of the user computer is booted or shutdown; and (e) receiving information about screen or sound files with ads a user desires to be served with, from user computers, and pushing the at least one screen or sound files with ad files created in the step (d), to user computers based on the received information. As for users, an advertisement receiving fee can be paid in lieu of receiving ads, and considerable advertising effect is expected in terms of the present propagation rate of PCs.

WO 00/73916 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**ADVERTISING METHOD THROUGH DISPLAY SCREEN
OR SOUND ON USER COMPUTER OVER NETWORK
AND COMPUTER READABLE MEDIUM THEREFOR**

5 Technical Field

The present invention relates to providing advertisements over a network, and more particularly, to a method of advertising through a display screen or sounds on user computers over a network, and a computer readable medium therefor.

10

Background Art

Computer users are greeted with boot and shutdown screens whenever he/she turns a computer on and off, or a background screen when a particular program is not started yet, or a screen saver when use of the computer is
15 suspended or idle for a while.

Existing operating systems, for example, Windows® 95/98, do usually not allow users to alter the boot and shutdown screens, and thus the user must see the same boot and shutdown screens, such as the logo of Microsoft®, as shown in FIGS. 1A and 1B if the user adopts the Windows®
20 95/98 as an operating system, each time he/she turns a computer on and off regardless of the user's preferences.

With respect to the background screen or the screen saver, an example of which is shown in FIG. 1C, the user can change a preexisting screen by choosing a screen designated by the manufacturer of the operating system,
25 although there is a small choice of screens. Alternatively, the user can create new screens to display on his monitor. However, taking such additional steps is inconvenient.

It is now possible to consider personal computers (PCs) as future advertising media, e.g., through a display screen or sounds, in view of the
30 current propagation rate of PCs. However, the fact is that application of user computers as advertising media is far behind the spread of PCs because an unchanging screen such as the logo of a manufacturer is displayed.

Meanwhile, advertisements (ads) through the Internet, such as a

"banner" or "adcon" ads, has been proliferated. However, a problem with the existing advertising technique is in its very limited advertising effect, because its advertising effect cannot be expected until users access a particular site through the Internet.

5 Accordingly, there is a need for continuous transmission (pushing) of screen or sound files with ads to users through a network, which allows application of user computers as effective advertising media.

Disclosure of the Invention

10 An objective of the present invention is to provide a method of providing advertisements (ads) to users through a display screen or sounds on user computers, in which screen or sound files with ads are continuously pushed through a network to user computers, and preexisting screen or sound files in user computers are changed by files downloaded from the server computer.

15 Another objective of the present invention is to provide a computer readable medium for storing the advertising method.

The first object is achieved by the method of advertising through a display screen or sounds on user computers connected to a server computer through a network according to the present invention, the method comprising:

20 (a) creating a program capable of automatically changing at least one screen file for the boot and shutdown screens, a background screen and a screen saver or a sound file running at the time an operating system of a user computer is booted or shutdown, the screen and sound files preexisting in user computers, with at least one screen or sound files with advertisements

25 (ads) transmitted from the server computer, and storing the created program in a memory of the server system; (b) downloading the program through the network to user computers; (c) creating at least one ad file with images and/or sounds in response to a request by advertisers; (d) creating screen files with the ad file for the boot screen, shutdown screen, background screen or screen

30 saver, or sound files with the ad file, the sound files running at the time the operating system of the user computer is booted or shutdown; and (e) receiving information about screen or sound files with ads a user desires to be

served with, from user computers, and pushing the at least one screen or sound files with ad files created in the step (d), to user computers based on the received information.

The second object is achieved by the computer readable medium
5 having embodied thereon a computer program for advertising through a display screen or sounds on user computers connected to a server computer through a network, wherein the advertising through the network comprises the steps of: (a) creating a program capable of automatically changing at least one screen file for the boot and shutdown screens, a background screen and a
10 screen saver or a sound file running at the time an operating system of a user computer is booted or shutdown, the screen and sound files preexisting in user computers, with at least one screen or sound files with advertisements (ads) transmitted from the server computer, and storing the created program in a memory of the server system; (b) downloading the program through the
15 network to user computers; (c) creating at least one ad file with images and/or sounds in response to a request by advertisers; (d) creating screen files with the ad file for the boot screen, shutdown screen, background screen or screen saver, or sound files with the ad file, the sound files running at the time the operating system of the user computer is booted or shutdown; and (e)
20 receiving information about screen or sound files with ads a user desires to be served with, from user computers, and pushing the at least one screen or sound files with ad files created in the step (d), to user computers based on the received information.

25 Brief Description of the Drawings

FIGS. 1A through 1C illustrate examples of existing screen displays of personal computers;

FIG. 2 illustrates the configuration of a computer network system to which the present invention is applied;

30 FIG. 3 is a flowchart illustrating a method of advertising through a display screen or sounds on user computers over a network according to the present invention;

FIGS. 4A through 4D illustrate examples of downloaded screen files with advertisements (ads), or new versions thereof displayed on a monitor with ads pushed from a server computer; and

FIG. 5 is a flowchart illustrating the operation of the adcom program for automatically changing preexisting display screens on a user computer using screen or sound files with ads.

Best mode for carrying out the Invention

FIG. 2 shows the configuration of a computer network system to which the present invention is applied. As shown in FIG. 2, a server computer 14 is a computer installed at a company providing advertisement through a display screen or sounds on user computers according to the present invention, and a user computer 10 is a computer of one who is continuously provided with screen or sound files containing advertisements (ads) by using a predetermined program downloaded from the server computer 14. The server computer 14 and the user computers 10 are connected to each other through a network 12.

The server computer 14 stores in its memory a program (hereinafter, referred to as adcom program) which allows the user computers 10 to automatically change at least one screen file for the boot and shutdown screens, a background screen and a screen saver which have preexisted therein or a sound file which is run at the time of initiating or terminating the operation of computers, with at least one screen or sound files with ads downloaded from the server computer 14. The server computer 14 downloads the adcom program through the network 12 to the user computer 10. The adcom program is executed in user computers 10 to automatically change a preexisting screen or sound files of user computers 10 into a screen or sound files pushed from the server computer 14. The server computer 14 may be implemented through a web site on a network such as the Internet.

FIG. 3 is a flowchart illustrating an advertising method according to the present invention through a display screen or sounds on user computers over a network. For the convenience of explanation, it is assumed that the server

computer 14 is connected through a leased-line to user computers 10.

First, the server computer 14 creates and stores in its memory (not shown) an adcom program for automatically changing preexisting screen or sound files of user computers 10 into other screen or sound files which may
5 be downloaded from the server computer 14 (Step 302). The server computer 14 also stores information about advertisers in its database (Step 304). The advertiser's information includes names (or names of companies) of advertisers and target category information associated with target population who will be served with ads. The target category information can be grouped
10 into, for example, male middle and high school students, female middle and high school students, male adults and female adults, or in greater detail into workers in their thirties or housewives in their forties.

The server computer 14 creates ad files containing ads requested by advertisers (Step 306). The ad files refer to images or sounds with ads to be
15 incorporated into screen or sound files, respectively, which will be downloaded to user computers. The ad image commonly will be the trademark or logos of advertisers. The size of an ad image is determined based on advertising charges. For example, an ad image can be created to take up the whole screen exclusively for one advertiser, or divided to accommodate several
20 advertisers.

The server computer 14 creates screen or sound files with ad files, and stores the ad screen or sound files in its memory by target category (Step 308), which enables selective transmission of the ad screen or sound files on a target basis.

25 The server computer 14 downloads the adcom program created in Step 302 to user computers 10 connected to the same (Step 310). The adcom program can be provided for free to any user computer regardless of it being registered for membership. However, it is preferable to provide registered users benefits such as an ad receiving fee proportional to the number of times
30 each ad screen has been served to user computers or the period of time an ad is received. Also, personal information of users, including name, age, occupation and the field a user has an interest in, which is recorded at the

time of registration for membership, can be used for prospective advertisers as useful target information.

The server computer 14 receives information on screen or sound files users desire to be served with, and the target category information from user computers 10 through the network 12 (Step 312). User computers 10 run the adcom program downloaded from the server computer 14 to choose ad screen or sound files users want to receive, and the target category information. The selected information is transmitted to the server computer 14 with the adcom program. Here, a plurality of target categories may be selected by users. In such cases, the server computer 14 downloads all the ad screen or sound files associated with the selected target categories. For the downloading of ads screen or sound files to users, either a user can personally select the target categories or the server computer 14 can download ad files to users based on the personal information of users, which has been stored in the server computer 14 during registration of membership.

The server computer 14 pushes the ad screen or sound files, which are stored in its memory by target category, to user computers 10 (Step 314).

The server computer 14 receives the identification (ID) number of users (for registered members), frequency information for how many times ad screens have been served to user computers, or the duration of ad receipt. Each time the adcom program is executed, it checks the number of times each ad screen or sound files has been served through the boot and shutdown screens and a background screen, and the period of time during which a screen saver with ads is activated, and transmit this information to the server computer 14. Here, the number of times each ad screen has been served is counted each time the user computers 10 are turned on or off.

The frequency information for ad screen or the ad receiving time is cumulatively stored for each user (Step 318) so as to pay users who receive ad files an ad receiving fee periodically, for example, once every two weeks or once a month, in proportion to the frequency or the duration of ad receipt.

A determination of whether the server computer 14 has at least one new version of ad files is made (Step 320). The new version of ad files refers

to the ad files created in response to request of advertisers for updating. If the server computer 14 has no a new version of ad files, a series of advertising procedures are terminated. Meanwhile, if there is at least one new ad version, the server computer 14 creates new screen or sound files based on the
5 updated ad files (Step 322).

The server computer 14 receives information about the existing screen or sounds files, which the user computers 10 store therein, from the user computer 10 in units of a predetermined period of time (Step 324). The adcom program installed in user computers 10 transmits such information to the
10 server computer 14 each time it runs, and the server computer 14 receives the current file information of user computers 10.

The ad screen or sound files of the server computer 14 are compared with the existing screen or sound files of the user computer 10 to determine whether there is a need to update the screen or sound files of the user
15 computers 10 with a new version (Step 326). If the server computer 14 has a new version, the server computer 10 pushes only the new version of files to user computers 10 (Step 328). The point in time at which screen files of user computers 10 are updated with new ones may differ for the boot or shutdown screen, a background screen or a screen saver. For example, if there is a
20 new version of screen files for only the screen saver, not for the boot and shutdown screens and background screen, the server computer 10 can selectively push only the new file version of the screen saver to user computers 10.

FIGS. 4A through 4D illustrate examples of screen files with ads, and
25 a new version thereof, which are downloaded by the method according to the present invention. In particular, FIG. 4A depicts an example of the boot screen pushed from the server computer. As shown in FIG. 4, the boot screen with ads created at the request of an advertiser (Hyundai Electronics), which is served to a user who desires to be served, appears on the monitor of the
30 user computer each time the user turns his/her computer on. Also, the boot screen with ad files can be updated with a new version of a screen file pushed from the server computer 14. FIG. 4B shows an example of the shutdown

screen with ads pushed from the server computer 14, which appears on the monitor of the user computer each time the user turns his/her computer off.

In a similar manner, the adcom program downloaded from the server computer 14 to user computers 10 automatically changes the preexisting the screen or sound files of users into the ad screen or sound files pushed from the server computer 14. The operation of the adcom program will now be described with reference to FIG. 5.

Once the adcom program stores information pushed from the server computer 14 in a predetermined memory sector thereof (Step 502). In the case where a file pushed from the server computer 14 is for changing the boot or shutdown screen, it is determined whether the default mode is set (where the logo of a manufacturer serving the operating system is shown, for example, "Logo=1" in MSDOS.SYS) (Step 504). If no default mode is set (where the logo of a manufacturer serving the operating system is not shown, for example, "Logo=0" in MSDOS.SYS), the current mode is changed into the default mode (Step 506). In turn, the current boot screen is changed into the pushed screen file for the boot or shutdown screen, for example, into logo.sys (for Windows® 95) or logos.sys (for Windows® 98) for the boot screen, or into logow.sys for the shutdown screen (Step 508). Unless a new version of files for the boot or shutdown screen is downloaded, the changed ad screen continues to be shown each time the user computers 10 are turned on or off. If it is determined in Step 504 that the default mode is set, the process moves to Step 508, not via Step 506.

In the case where a file pushed from the server computer 14 is for the background screen, the current background screen is changed with the file pushed by using a predetermined function or by correcting the appropriate Windows® 95/98 registry entries (Step 510). For example, for the Windows® 95/98, the function of SystemParameterInfo in WINDOWS API can be used to change the image file of the preexisting background screen into the pushed background screen with ads. Alternatively, an appropriate item under the path HKEY_CURRENT_USER\control panel\desktop of Windows® 95/98 registry entries may be corrected to reflect the change in the background screen.

In the case where a file pushed from the server computer 14 is for a screen saver, the .scr file in SCRNSAVE.EXE in the boot section of SYSTEM.INI in the window directory is changed into the pushed .scr file for the screen saver (Step 512). If the screen saver is in the inactive state, the item ScreenSaveActive under the path HKEY_CURRENT_USER\control panel\desktop is set to 1. Also, if the period of time from when the system is idle to the time the screen saver is activated, which is also referred to as "wait time", is not set, the item ScreenSaveTimeout under the same path is set to default.

In the case where a sound file with ads is pushed from the server computer 14, the current sound file is changed into the pushed sound file (Step 514). In particular, the value of .current of the item SystemStart under the path HKEY_CURRENT_USER\AppEvents\Schemes\Apps\Default is changed to reflect the change of the sound file.

Through the above-described procedures, the preexisting screen or sound files of user computers can be automatically changed or updated by screen or sound files with ads pushed by the server computer.

The invention may be embodied in a general purpose digital computer by running a program from a computer usable medium, including but not limited to storage media such as magnetic storage media (e.g., ROM's, floppy disks, hard disks, etc.), optically readable media (e.g., CD-ROMs, DVDs, etc.) and carrier waves (e.g., transmissions over the Internet). Hence, the present invention may be embodied as a computer usable medium having a computer readable program code unit embodied therein for providing advertisements over a network. The computer readable medium can be separated and stored in the server computer and user computers connected through a network and the computer readable program codes stored therein are executed.

In the advertising method according to the present invention, the server system continues to pushing screen or sound files with ads through a network to user computers, and the preexisting screen or sound files of user computers can be changed with the pushed files with ads. The present invention has the following advantages.

First, using user computers as advertising media provides an enhanced advertising effect to advertisers. Especially, once files with ads are pushed to user computers, the ads can be continuously served to users through the monitor or speaker of users without requiring connection to a network.

5 Considerable advertising effect is expected in terms of the present propagation rate of PCs.

Second, as for users, an advertisement receiving fee can be paid in lieu of receiving ads.

Third, the server computer can transmit to users screen or sound files with ads by "pushing" without disturbing the tasks performed by the user of the computer.

While this invention has been particularly shown and described with reference to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention as defined by the appended claims. Although the preferred embodiments are described with assuming a leased line between a server computer and user computers, it is appreciated that the use of leased line connection is for exemplary purposes only and that the technique of the present invention can be readily adapted to the case where a modem is adopted as the connection means. Although the preferred embodiments are described with reference to Windows® 95/98 as the operating systems, it is appreciated that this invention can be implemented in other operating systems that adopt a Graphic User Interface (GUI) and more advanced versions of Windows.

25

Industrial Applicability

The present invention can be applied to advertising systems over the Internet using a push server.

What is claimed is:

1. A method of advertising through a display screen or sounds on user computers connected to a server computer through a network, comprising:
 - 5 (a) creating a program capable of automatically changing at least one screen file for the boot and shutdown screens, a background screen and a screen saver or a sound file running at the time an operating system of a user computer is booted or shutdown, the screen and sound files preexisting in user computers, with at least one screen or sound files with advertisements
10 (ads) transmitted from the server computer, and storing the created program in a memory of the server system;
 - (b) downloading the program through the network to user computers;
 - (c) creating at least one ad file with images and/or sounds in response to a request by advertisers;
 - 15 (d) creating screen files with the ad file for the boot screen, shutdown screen, background screen or screen saver, or sound files with the ad file, the sound files running at the time the operating system of the user computer is booted or shutdown; and
 - (e) receiving information about screen or sound files with ads a user
20 desires to be served with, from user computers, and pushing the at least one screen or sound files with ad files created in the step (d), to user computers based on the received information.
2. The method of claim 1, further comprising:
 - 25 storing the screen or sound files with ads in a database of the server computer, by target category to which target population advertisers will serve ads belongs;
 - receiving target category information from user computers, selected by users; and
 - 30 pushing the screen or sound files with ads stored in the database by target category, to user computers based on the received target information.

3. The method of claim 1, further comprising:

receiving from user computers frequency information for how many times each screen file for the boot and shutdown screens, the background screen and the screen savers, or sound file has been served to user computers, and information about the period of time during which the screen saver is activated; and

cumulatively storing the frequency information and the period of activation time for the screen saver in the database of the server computer on a user basis, wherein an advertising receiving fee is paid to users periodically based on the stored frequency and the period information.

4. The method of claim 1, further comprising:

creating a new version of the ad files created in the step (c); and creating screen or sound files with the new versions of ad files.

5. The method of claim 4, further comprising:

receiving information about the existing screen or sound files from user computers periodically;

comparing the received file information to the newly created screen or sound files with a new version of ad files, to determine whether there is a need to update the existing screen or sound files of user computers; and

if there is a need for updating, pushing the new version of the screen or sound files to user computers.

6. A computer readable medium having embodied thereon a computer program for advertising through a display screen or sounds on user computers connected to a server computer through a network,

wherein the advertising through the network comprises the steps of:

(a) creating a program capable of automatically changing at least one screen file for the boot and shutdown screens, a background screen and a screen saver or a sound file running at the time an operating system of a user computer is booted or shutdown, the screen and sound files preexisting in

user computers, with at least one screen or sound files with advertisements (ads) transmitted from the server computer, and storing the created program in a memory of the server system;

(b) downloading the program through the network to user computers;

5 (c) creating at least one ad file with images and/or sounds in response to a request by advertisers;

(d) creating screen files with the ad file for the boot screen, shutdown screen, background screen or screen saver, or sound files with the ad file, the sound files running at the time the operating system of the user computer is
10 booted or shutdown; and

(e) receiving information about screen or sound files with ads a user desires to be served with, from user computers, and pushing the at least one screen or sound files with ad files created in the step (d), to user computers based on the received information.

1/5

FIG. 1A

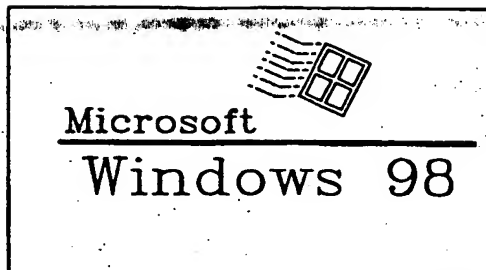


FIG. 1B

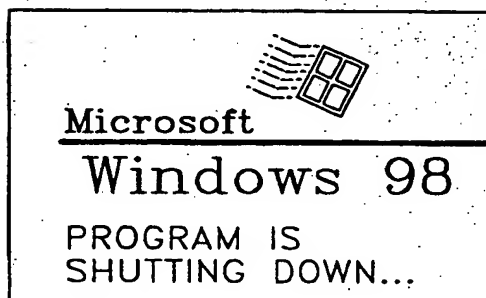
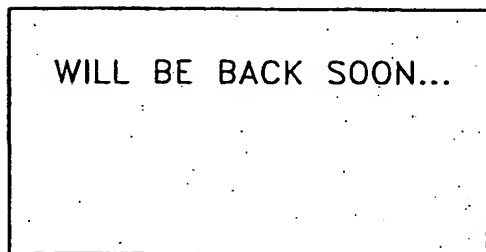
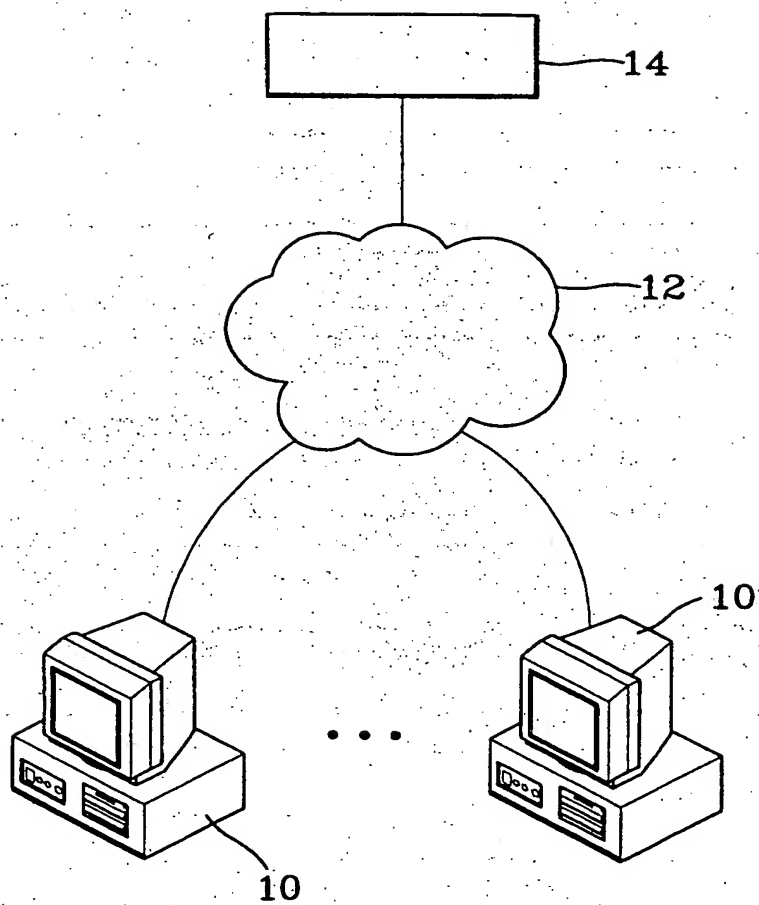
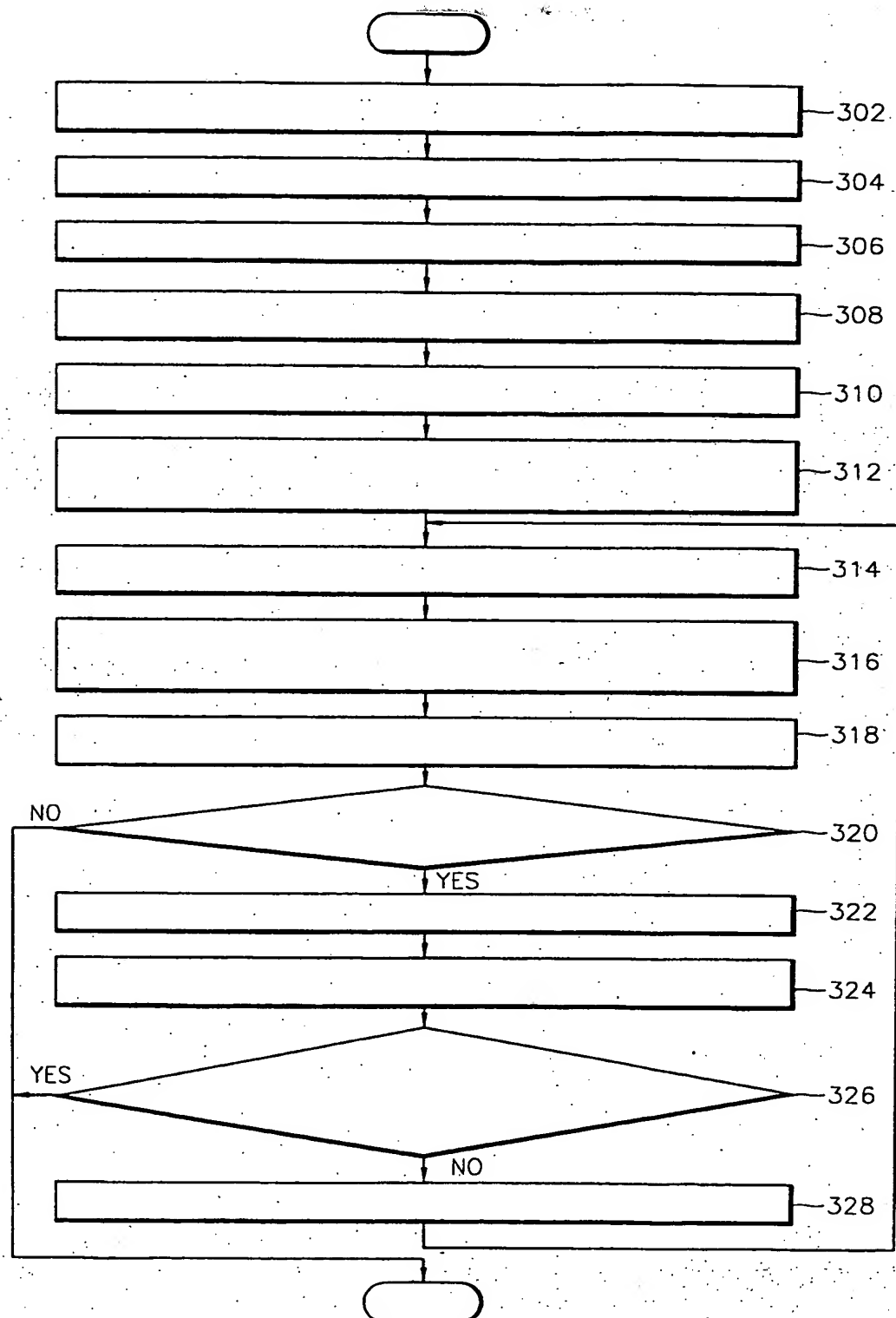


FIG. 1C



2/5
FIG. 2

3/5
FIG. 3

4/5

FIG. 4A

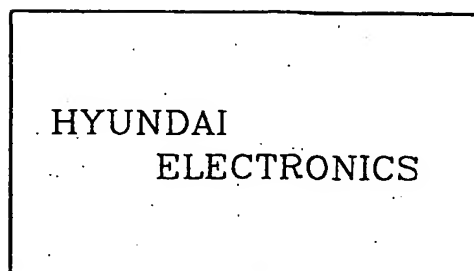


FIG. 4B

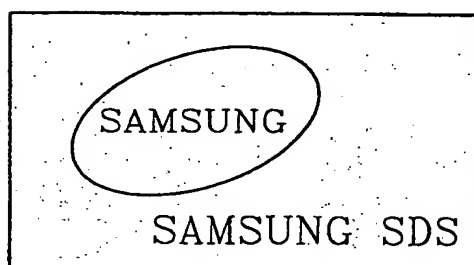


FIG. 4C

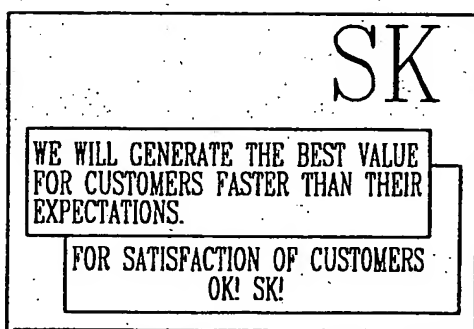
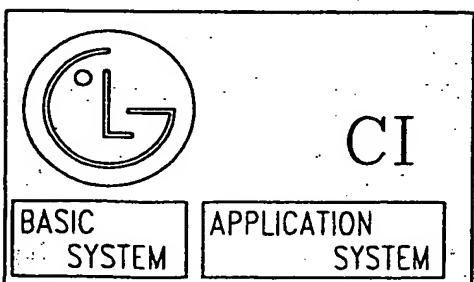
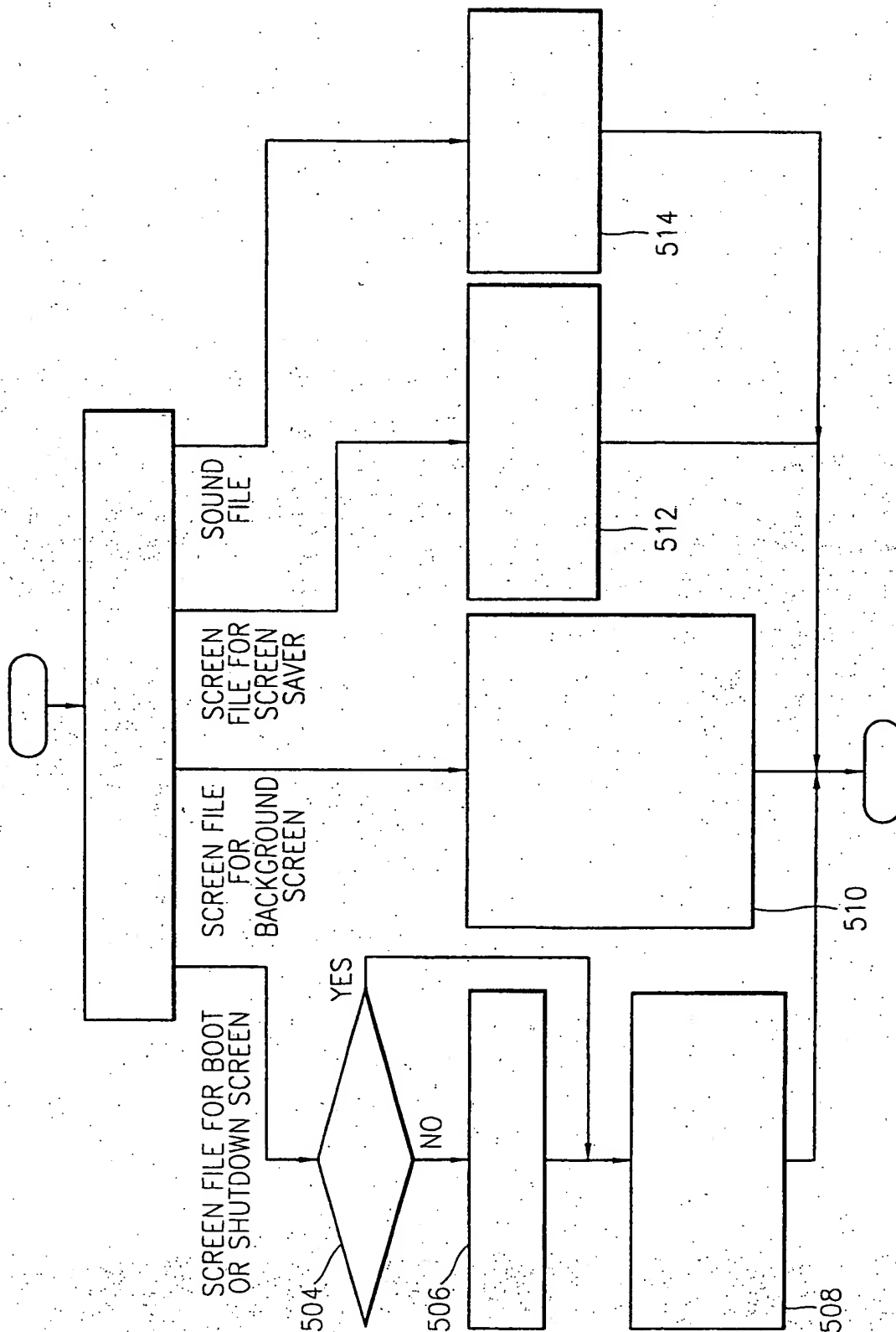


FIG. 4D



5/5

FIG. 5



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR00/00156**A. CLASSIFICATION OF SUBJECT MATTER**

IPC7 G06F 15/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 G06F17/60

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US5740549(POINTCAST) 14.4.1998 abstract, claims 1-6	1-6
Y	US5794210(CYBERGOLD) 11.8.1998 abstract, claim 1	1
P,Y	US6026368(MEDIA .INC) 15.2.2000 abstract,	1-6
A	US5568612(CANON) 22.10.1996 abstract	1-6

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

23 MAY 2000 (23.05.2000)

Date of mailing of the international search report

05 JUNE 2000 (05.06.2000)

Name and mailing address of the ISA/KR

Korean Industrial Property Office
Government Complex-Taejon, Dunsan-dong, So-ku, Taejon
Metropolitan City 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

SONG, Dae Jong

Telephone No. 82-42-481-5992



THIS PAGE BLANK (USPTO)

THIS PAGE BLANK (USPTO)